

THAT WHICH IS CLAIMED:

1. A prosthetic for facilitating articulating contact of a tibia with a femur of a knee, said femur having a medial condyle and a lateral condyle, said knee prosthetic comprising:

a tibial component defining a lateral concavity and a medial concavity;

said lateral concavity having a first portion configured to interact with the lateral condyle of the femur during normal knee flexion and a second portion configured to interact with the lateral condyle of the femur during high knee flexion; and

said medial concavity having a first portion configured to interact with the medial condyle of the femur during normal knee flexion and a second portion configured to interact with the medial condyle of the femur during high knee flexion;

wherein the lateral and medial concavities have different shapes and wherein the first and second portions are at least partially at separate locations within their respective concavities.

2. A prosthetic of Claim 1, wherein said tibial component includes a tibial tray that defines said medial and lateral concavities, said tibial tray being affixable to a proximal end of the tibia.

3. A prosthetic of Claim 2, wherein said tibial component is constructed of a unitary piece of material.

4. A prosthetic of Claim 1, wherein the medial concavity includes a conforming boundary encompassing at least the first and second portions.

5. A prosthetic of Claim 4, wherein a surface within the conforming boundary is generally flat.

6. A prosthetic of Claim 5, wherein the conforming boundary has a progressively expanding medial-lateral width as it extends from an anterior end to a posterior end.
7. A prosthetic of Claim 6, wherein the conforming boundary has a generally triangular shape with an apex at the anterior end and a base at the posterior end.
8. A prosthetic of Claim 7, wherein said first portion includes said apex and said second portion includes the remainder of said generally triangular shaped portion.
9. A prosthetic of Claim 6, wherein said first portion includes said anterior end and said second portion includes the posterior end.
10. A prosthetic of Claim 9, wherein the conforming boundary has an anterior-posterior length of at least 3 mm.
11. A prosthetic of Claim 9, wherein the conforming boundary has an anterior-posterior length from 3 mm to 5 mm.
12. A prosthetic of Claim 1, wherein said medial condyle can move within an area in which for any given position of the medial condyle, the lateral condyle can have many positions.
13. A knee prosthetic for facilitating movement of a knee<sup>~</sup> through a large range of knee flexion angles, including high knee flexion, said knee prosthetic comprising:  
a femoral component having a medial condyle and a lateral condyle; and  
a tibial component defining a medial concavity and a lateral concavity;  
wherein the lateral concavity has a different shape than the medial concavity;

wherein said medial and lateral concavities have first portions that are in articulating contact with the medial and lateral condyles of the femoral component during normal knee flexion; and

wherein said medial and lateral concavities have second portions that are at least partially separate from the first portions and are in articulating contact with the medial and lateral condyles of the femoral component during high knee flexion.

14. A knee prosthetic of Claim 13, wherein the tibial component is rigidly mounted to a tibia of the knee.

15. A knee prosthetic of Claim 14, wherein the tibial component is adapted to allow preservation of a posterior cruciate ligament of the knee when attached to the tibia.

16. A knee prosthetic of Claim 13, wherein the medial concavity includes a conforming boundary encompassing at least the first and second portions.

17. A knee prosthetic of Claim 13, wherein an area within the conforming boundary has a generally flat surface.

18. A knee prosthetic of Claim 17, wherein the conforming boundary has a generally triangular shape with an apex at the anterior end and a base at the posterior end.

19. A knee prosthetic of Claim 18, wherein said first portion includes said apex and said second portion includes the remainder of the area within the conforming boundary.

20. A knee prosthetic of Claim 17, wherein said first portion includes said anterior end and said second portion includes the posterior end.

21. A knee prosthetic of Claim 20, wherein the conforming boundary has an anterior-posterior length of at least 3 mm.

22. A knee prosthetic of Claim 20, wherein the conforming boundary has an anterior-posterior length from 3 mm to 5 mm.

23. A knee prosthetic of Claim 13, wherein said medial condyle can move within an area in which for any given position of the medial condyle, the lateral condyle can have many positions.